THE DIAMOND FIELD OF THE GREAT LAKES

THE diamonds which have from time to time been discovered in the region of the Great Lakes of North America, now number seventeen, not including those of microscopic size. With the augmentation of the number of stones the problems arising out of their distribution in the glacial drift, and particularly those relating to the source or sources from which they have been derived, assume increasing interest.

HISTORICAL INTRODUCTION

The first mention of diamonds from this region in any scientific work appears in the *Mineral Resources of the United States for the year 1883–4*,[1] in which Kunz refers to the sensation caused by the reported diamond discovery near Waukesha, Wisconsin, in 1883. The "booming" of the property for diamond mines and the alleged discovery subsequently of two diamonds which Kunz found to have the aspect of African stones, very naturally led this eminent authority to discredit the discovery at this place of the larger stone as well, and to consider the entire affair as a so-called "plant" to influence speculation.

In the summers of 1887, 1888, and 1889, Mr. G. H. Nichols, of Minneapolis, assisted by Messrs. W. W. Newell and C. A. Hawn, of Rock Elm, Wis., prospected for gold in the bed of Plum Creek, Rock Elm township, Pierce county, Wisconsin. In the course of their work they found ten or more diamonds, varying in weight from ½ carat to 2 carats, besides a number of stones of microscopic dimensions.[2] The stones were found

[1] G. F. KUNZ: Mineral Resources of the United States, U. S. Geol. Surv. 1883–4 (1885), p. 732; see also Gems and Precious Stones of North America, New York, 1890, p. 35.

[2] G. F. KUNZ: Diamonds in Wisconsin, Eng. and Min. Journ., Vol. L, 1890, p. 686; see also a paper by the same author in Bull. Geol. Soc. Am., Vol. II, 1891, p. 638.

in the well-worn gravel of the bed of the creek, associated with garnets, gold, and platinum. Some were colorless but others were bluish or slightly yellowish. Three of the stones, which were sent to Mr. Kunz for examination, weighed respectively $\frac{25}{32}$, $\frac{7}{16}$, and $\frac{3}{32}$ of a carat.

In November 1893, a white diamond of $3\frac{14}{16}$ carats, weight was brought to the writer in a collection of quartz pebbles, by Charles Devine, a farmer of Oregon, Dane county, Wisconsin. The stones had been found in October of the same year by a small son while playing in a clay bank on the farm of Judson Devine, in the town of Oregon, which is about twelve miles south of Madison.[1]

The writer's interest having been aroused in the occurrence of these stones, he began to investigate the Waukesha sensation and after some correspondence learned that a yellow diamond of over 15 carats weight was in the possession of Colonel S. B. Boynton, a jeweler of Chicago. From Mr. Boynton was learned the history of this stone, which was undoubtedly found as reported, at Eagle, near Waukesha, Wisconsin. The stone was brought to light in 1876 while digging a well on the farm then owned by Thomas Deveraux. The diamond was noted as something peculiar, and was given to Mrs. Clarissa Wood, who, with her husband, was a tenant on the property. Seven years later, in November 1883, while still ignorant of the real nature of the stone, she sold it to Mr. Boynton, at that time conducting a jewelry business in Milwaukee, for the sum of one dollar. Colonel Boynton submitted the stone to competent examination and learned that it was a diamond. Upon hearing of this Mrs. Wood offered to repurchase the stone for $1.10, and upon his refusal to accept this offer, brought suit against him to recover the full value of the stone. After extensive litigation the case was brought to the supreme court of the state, from which a decision was handed down in favor of the defendant, on the

[1] WM. H. HOBBS: On a recent Diamond Find in Wisconsin, and On the Probable Source of this and other Wisconsin Diamonds, Am. Geol., Vol. XIV, 1894, pp. 31-35; see also, Diamanten von Wisconsin, Neues Jahrb. f. Mineral., 1896, II, p. 249.

ground of his ignorance of the nature of the stone at the time of purchasing it.

The writer called upon Colonel Boynton at Chicago, and was allowed to examine the stone. Both it and the Oregon diamond were subsequently purchased by Tiffany & Co., of New York, and are still uncut in the Tiffany collection.[1]

Through Mr. Boynton the writer learned that a large diamond had been found in 1884 (this date should be 1886), by a farmer named Endlich, at Kohlsville, near West Bend, Washington county, Wisconsin. The stone had been brought to Mr. Boynton's shop for examination, and he had remembered it as a wine-yellow diamond, weighing 21¼ carats. After considerable correspondence this diamond was located by the writer in the possession of Mrs. Louis Endlich, of Kewaskum, Wis, the widow of the man who had discovered the stone in the neighboring town of Kohlsville. On visiting Kewaskum the writer was allowed to examine the stone, which proved to be in all respects as described by Colonel Boynton, and there is no doubt that the weight (21¼ carats) reported by him is approximately correct, since this stone is considerably larger than the one from Eagle. Mrs. Endlich stated that her diamond was found by her husband in the spring of 1886 while plowing a field on his farm in the town of Kohlsville.[2] This stone is still in her possession.

In 1894 Mr. Kunz reported the finding by Mr. Frank B. Blackmond of a diamond weighing almost 11 carats, at Dowagiac, Cass county, Michigan. This locality is to the southeast of Lake Michigan, on the Michigan Central railway, between Niles and Kalamazoo. The stone was found in the glacial drift and some search was subsequently made in the vicinity for other stones, but with negative results.[3]

[1] WM. H. HOBBS: *loc. cit.*, p. 32.

[2] WM. H. HOBBS: N. J. B., 1896, II, p. 33; also Bull. Univ. Wis., Sci. Ser., Vol. I, 1895, pp. 152–154; see also, G. F. KUNZ: Eighteenth Annual Report U. S. Geol. Surv. Pt. IV, 1895, p. 596.

[3] G. F. KUNZ: Sixteenth Annual Report U. S. Geol. Surv., 1895, Pt. IV, p. 596.

In March, 1896, a stone was brought to the office of the Wisconsin state chemist, at Milwaukee, which, on examination, proved to be a white diamond of nearly 6½ carats weight. It was found by Conrad Schaefer, a German farmer at Saukville, Ozaukee county, Wisconsin. In a letter to the writer, Mr. Schaefer says of this stone (translation):

> This diamond is from a little collection of gems, stones, and fossils, also Indian implements, all collected on my land. My land adjoins the Milwaukee River, and is a drift range running northeast and southwest. I had the stone about fifteen or sixteen years in my possession.

This diamond was purchased by Messrs. Bunde & Upmeyer, the well-known Milwaukee jewelers.[1]

In 1893 Messrs. Bunde & Upmeyer purchased from Mrs. G. Pufahl a white diamond of about 2 carats weight, said to have been found at Burlington, Racine county, Wisconsin. Little was learned at the time of the circumstances attending the finding of this stone, and the writer's subsequent attempts to get into communication with Mrs. Pufahl, though kindly assisted by Messrs. Bunde & Upmeyer, have not been successful. Like most of the others, this diamond was probably found in the glacial drift.[2]

The latest diamond to come from the region under consideration was found so recently that nothing is in print concerning it, except in the newspapers. It is a diamond of purest water, weighing 6 carats, and was found in 1897 by two small daughters of J. R. Taylor, at the town of Milford, Clermont county, Ohio. It is now owned by Herman Keck, of Cincinnati, and has recently been cut into the form of a brilliant. Before cutting a cast was taken of it and the stone is now being studied by Professor Thomas N. Norton, of the University of Cincinnati.

It is seen from the foregoing that no less than seventeen well-identified diamonds, varying in weight from ½ carat to over 21 carats, have been discovered in the region of the Great Lakes of North America. That a considerable number of others have been found which have not been reported because they have

[1] G. F. KUNZ: Eighteenth Annual Report U. S. Geol. Surv., 1897, Pt. V, p. 1183.

[2] G. F. KUNZ: *Ibid.*

escaped identification, hardly admits of reasonable doubt, when it is borne in mind that three of the stones found (including the two of largest size) remained in the hands of the farming population without their nature being discovered, for periods of eight and one half, seven, and over fifteen years, respectively. If it were possible to visit all the homes in the lake region, I have no doubt that many diamonds would be discovered in the little collections of pebbles and local "curios" which accumulate on the clock shelves of country farmhouses.

Since 1894, when the writer published a note on the Eagle, Oregon, and Kohlsville diamonds, and ventured to predict that other diamonds would occasionally be found in the glacial drift, they have been coming to light in this region, at the rate of about one each year, though not apparently as the result of search in any case.

PHYSICAL CHARACTERISTICS OF THE LAKE DIAMONDS

It will be profitable to consider the physical peculiarities of the several diamonds which have been found in the lake region, and to compare them with one another in order to determine whether points of resemblance or of difference are the more remarkable. They may be considered in respect to size, form, surface, and color. The observations of specific gravity and of index of refraction, which would be of great interest, have not as yet been carried out upon them.

Size.—The size of the lake diamonds is best indicated by their weights, which range from $21\frac{1}{4}$ carats (Kohlsville) to the microscopic diamonds of Plum Creek. In descending order the weights of the stones which have been examined are respectively $21\frac{1}{4}$, $15\frac{12}{32}$, $10\frac{7}{8}$, $6\frac{13}{32}$, 6, $3\frac{14}{16}$, $2\frac{1}{16}$, 2, $\frac{25}{32}$, $\frac{7}{16}$, and $\frac{3}{32}$ carats. While the average weight of these is over 6 carats, it cannot be considered an average for the region, since only the larger stones are likely to be discovered until a systematic search is undertaken in the region. At Plum Creek, where panning of the gravels was undertaken, the diamonds found were mostly small, the largest being of 2 carats weight.

Crystal form.—The crystal form of the lake diamonds furnishes the most important method of comparing them. The prevailing forms are the rhombic dodecahedron, the rhombic dodecahedron with vicinal faces of a hexoctahedron, and a hexoctahedron. The exceptions to the rule are found in the Saukville stone, a trisoctahedron; the Burlington stone, a tetrahedron; and the Milford stone, which from the newspaper accounts would seem to be an octahedron. Twinning was observed in one of the Plum Creek diamonds (in a hexoctahedron) and in the Burlington stone (in a tetrahedron).

The crystals possessing dodecahedral and hexoctahedral habits show, therefore, close affinities in their crystal forms, the Eagle and Kohlsville stones, which are crystallographically almost identical, being essentially intermediate between the Oregon dodecahedron and the Plum Creek and Dowagiac hexoctahedrons. On all the crystals the faces are rounded, and unequal development has produced distortion. The Eagle diamond approaches nearer to the ideal form than any of the others which I have examined.

Surface.—Surface markings are common to most of the stones. These are generally pittings, irregular in some cases, but generally circular or triangular. On the Eagle stone there are triangular elevations.

Color.—The color of the diamonds in this region varies from "white" to white tinged with green, and to pale yellow. The stones of Milford and Saukville are "white." White stones with faint grayish-green tinge (probably external) were found at Oregon and Burlington, and one from Plum Creek; while the Eagle and Kohlsville stones and some of those from Plum Creek are "Cape-white" (pale yellow). The several stones exhibit also varying degrees of transparency, the Milford stone particularly being of a remarkably pure water.

For purposes of comparison the most important facts regarding the larger diamonds have been brought together in the table on the opposite page.

Locality Where Found	Weight in Carats	Size	Crystal Form	Surface Markings	Color	Da Fi
Eagle, Waukesha Co., Wis., on farm owned (1876) by Thomas Devereaux	$15\frac{12}{32}$		Rhombic dodecahedron, with vicinal faces of hexoctahedron. Only slightly distorted	Faces show circular markings; also triangular elevations	"Cape White" (pale yellow)	
Plum Creek, Rock Elm Township, Pierce Co., Wis. Ten stones, ranging in size from $\frac{1}{2}$ to 2 carats, and a number of microscopic size	(*a*) $\frac{25}{32}$		(*a*) Hexoctahedron	(*a*) An L-shaped depression on the side, with rounded faces, including sand grains	(*a*) White, with slight grayish-green tinge	
	(*b*) $\frac{7}{16}$		(*b*) Elongated hexoctahedron	(*b*) Surface covered with small crystalline markings	(*b*) Slightly yellowish	
	(*c*) $\frac{3}{32}$		(*c*) Elliptical hexoctahedral twin	(*c*) Surface dull	(*c*) White tinged yellow	
Oregon, Dane Co., Wis., on farm of Judson Devine, $2\frac{1}{2}$ miles southwest of village	$3\frac{14}{16}$		Rhombic dodecahedron (distorted)	Deeply pitted with circular and elongated reniform markings	White, with slight gray-green tinge (probably superficial)	O
Kohlsville, Washington Co., Wis., on the farm of Louis Endlich	$21\frac{1}{4}$	20 mm × 13 mm × 10 mm	Elongated rhombic dodecahedron, with vicinal planes of hexoctahedron	All the faces have small irregular shaped pittings	Pale yellow	S
Dowagiac, Cass Co., Mich.	$10\frac{7}{8}$	13 mm × 9 mm × 11mm	Hexoctahedron			
Saukville, Ozaukee Co., Wis., on farm of Conrad Schaefer	$6\frac{13}{32}$		Flattened distorted trisoctahedron	Irregular, uneven surface, with deep octahedral impression on one side	White, with two yellow stains	
Burlington, Racine Co., Wis.	$2\frac{1}{16}$		Elongated tetrahedral twin		Faint greenish-white, perhaps external	
Milford, Clermont Co., Ohio	6		Octahedron (?) (Now cut into brilliant)	Markings	White	

Date of Finding	Date of Determination, and by Whom	Finder	Material in which Stone was Found	Present Owner	Where Described
1876	1883; 1893 G. F. Kunz, and the writer	Laborer employed by Mrs. Clarissa Wood, of Eagle	Gravel and clay of kettle moraine cemented by ferric oxide into hard yellow matrix	Tiffany & Co., New York	Am. Geol., 14 (1894), 31 N. J. B., 1896, II, 249
1887	1891 G. F. Kunz	G. H. Nichols, Minneapolis	Sand of stream bed containing quartz, magnetite, titanic iron, almandite, spessartite or hessonite, monazite, gold, and platinum	Do.	Eng. & Min. Jour., 50 (1890), 686
				Do.	Bull. G. S. A., 2 (1891), 638
1888		W. W. Newell and C. A. Hawn, Rock Elm, Wis.			Min. Res. U. S., 1892 (1893), 759
1889				Do.	
October 1893	November 1893 The writer, and later G. F. Kunz	Son of Chas. Devine, Oregon	With pebbles of quartz in clay, kettle moraine	Do.	Am. Geol., 14 (1894), 31 N. J. B., 1896, II, 249 Min. Res. U. S., 1893 (1894), 682
Spring 1886	September 1894 The writer	Louis Endlich, of Kohlsville	Hard yellow ferruginous matrix in kettle moraine	Widow of L. Endlich, Kewaskum, Washington Co., Wis.	Am. Geol., 14 (1894), 31 Bull. Univ. Wis. (Sci.), 1 (1895), 152 18th Ann. Rept. U. S. G. S., Pt. V, 1183
1894 (?)	1894 G. F. Kunz	Frank B. Richmond	In kettle moraine		16th Ann. Rept. U. S. G. S., Pt. IV (1895), 596
1880	March 1896 Dr. Mitchell, State Chemist, and later G. F. Kunz	Conrad Schaefer, Saukville	In kettle moraine	Bunde & Upmeyer, Milwaukee	18th Ann. Rept. U. S. G. S. (1897), Pt. V, 1183
?	1893 Bunde and Upmeyer, Milwaukee	Mrs. G. Pufahl, of Burlington (?)	In kettle moraine (?)	Do.	Do.
1897	1898	Two small daughters of J. R. Taylor, of Milford	In or near kettle moraine	Herman Keck, Cincinnati	Not yet described

DISTRIBUTION OF THE LAKE DIAMONDS

The localities at which the diamonds have been found are distributed throughout an area nearly six hundred miles in length by two hundred miles in breadth, with its longer axis trending almost exactly northwest and southeast. Six of the eight localities are near the center of this territory, within an area about two hundred miles square, with its center near the city of Milwaukee.

All of the diamonds, with the exception of those from Plum Creek, were obtained from the deposits of glacial drift. The Plum Creek diamonds were obtained from the bed of the stream in immediate proximity to glacial deposits. It is clear, therefore, that the stones must have reached their late resting places in the drift through the agency of the ice mantle, and we should, therefore, study the directions of glacial movement throughout the region to discover the law of their distribution and to glean any facts that may be within our reach regarding the ancestral home, or homes, which they occupied before they were carried away by the ice.

The accompanying map of the lake region (Fig. 1) is based on the glacial map of Chamberlin[1], but revised and also extended to the north so as to include the results of later studies. The moraines in the vicinity of Lake Erie have been entered from Leverett's Monograph,[2] and those southwest of Lake Superior from a map by Todd.[3] The directions of the glacial striæ have been obtained from the works of Chamberlin, Leverett, and Todd already mentioned, and from papers by Lawson,[4] Smith,[5]

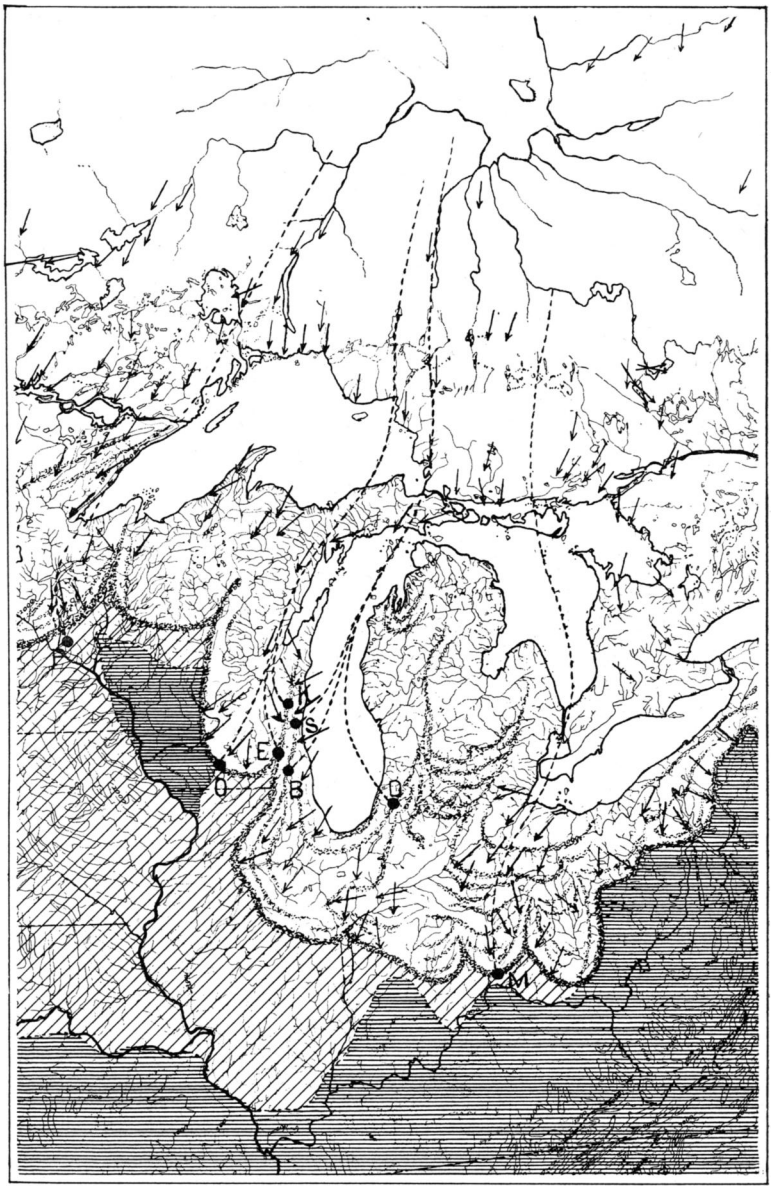
[1] T. C. CHAMBERLIN: The Rock Scorings of the Great Ice Invasions, Seventh Annual Report U. S. Geol. Surv. 1885–6 (1888), pp. 145–248, Pl. VIII.

[2] FRANK LEVERETT: On the Correlation of Moraines and Raised Beaches of Lake Erie, Am. Jour. Sci. (3), Vol. XLIII, 1892, pp. 281–301.

[3] J. E. TODD: A Revision of the Moraines of Minnesota. *Ibid.* (4) Vol. VI, 1898, pp. 469–478.

[4] A. C. LAWSON: On the Geology of the Rainy Lake Region. Geol. Surv. Can., Vol. III, 1889, Pt. I, Rept. F, Sheet No. 3.

[5] W. H. C. SMITH: On the Geology of Hunter's Island, and Adjacent Country. *Ibid.*, Vol. V, 1893, Rept. G, Sheet No. 23.



GLACIAL MAP OF THE GREAT LAKES REGION.

Driftless Areas. Older Drift. Newer Drift

Moraines. Glacial Striae. Track of Diamonds.

Diamond Localities 0° 190° E, Eagle O, Oregon.

K, Kohlsville D, Dowagiac. M, Milton. P, Plum Crk. B Burlington

Upham,[1] Low,[2] McInness,[3] and Bell.[4] In the Ohio area and in some others where a large number of observations of striæ have been collected the scale of the map has made it necessary to generalize, but these regions have been so carefully studied, both as regards moraines and scorings, that it was found easy to do this. In fact, within the territory of the United States the data at hand are sufficient for a fairly satisfactory plotting of the general direction of glacial movement at almost every point. Within the domain of Canada the great wilderness region has been covered only by reconnoissance surveys and except in the territory bordering on the lakes there exist only a few scattered observations from which to construct a map of glacial movement. In the district to the southeast of James Bay some surveys have been made but the material is not yet in print. In the region southwest and west of James Bay, which possesses also great interest, no data are available. Particularly in this latter region it is likely that striations will be found corresponding to different periods, owing to the fact that the ice from the Keewatin and Labradorean *névés* coalesced within this territory.

By plotting the diamond localities on the map it is seen that all but the Plum Creek locality are situated on the moraines of the later ice invasion, and that the latter locality is quite near to the moraine, within the area of overwash. It is also worthy of note that all but the Dowagiac stone were found in one of the marginal moraines which marked the greatest advance of the ice during its later invasion. The moraine which passes through Dowagiac corresponds to a somewhat later period, during the final retreat of the ice.

[1] WARREN UPHAM: Late Glacial or Champlain Subsidence and Re-elevation of the St. Lawrence River Basin, Am. Jour. Sci. (3), Vol. XLIX, 1895, pp. 1–18. Pl. I.

[2] A. P. LOW: Report on Exploration in the Labrador Peninsula, Geol. Surv. Can., Vol. VIII, 1896, Rept. L, p. 387, Sheets Nos. 585–588.

[3] W. C. MCINNESS: Sixth Report, Bureau of Mines, Ontario, 1896, Sheet No. 9.

[4] ROBERT BELL: Report on the Geology of the French River Sheet, Ontario, Geol. Surv. Can., Vol. IX, 1898, Rept. I, pp. 29, Sheet No. 125.

PROBABLE EXPLANATION OF THE DIAMOND DISTRIBUTION

The material from which the diamonds were derived must clearly have been to the northward beyond the lakes, in the wilderness of Canada. A method which may result in locating this material with some definiteness will be elaborated below. To explain the occurrence of so large a proportion of the stones in or near the outermost moraine, it is necessary to assume either that at the beginning of the second great advance of the ice the diamonds were embedded in a loose material easily transported, and hence largely removed before the stages of retreat, or that they were embedded in their matrix, which from its limited extent was largely abraded and removed by the ice during its initial stage.

The first is the more reasonable assumption, by reason of the wide fan of distribution of the diamonds, and the number which has been found warrants the assumption that the number of stones at the source of supply must have been very considerable. It is likely that for every diamond that has been found there are a thousand still undiscovered in the drift.

Professor T. C. Chamberlin has, at my request, very kindly given me his views on this question, and I have his permission to print the following from a personal letter:

> In regard to the explanation of the occurrence of the diamonds in the large moraines near the outer limit of the later invasion two explanations present themselves: First, the diamonds were separated from their original matrix in preglacial times by disintegration and accumulated in the bottoms of the valleys in the vicinity of their origin. The first glaciations were not sufficiently abrasive to remove the diamond-bearing gravels in the bottoms of the valleys, or at least not able to do so completely. The diamonds, therefore, do not occur frequently in the earlier drift material. Furthermore, the earlier drift material was less subjected to wash and now appears less abundantly as clean gravel and hence a less proportion of the diamonds that may have been embraced in it have been found. The chances of finding diamonds scattered throughout the till is of course relatively small.
>
> The second hypothesis postulates a sufficient interval between the earlier glacial invasion and the later to permit the disintegration of the diamond-bearing matrix and the freeing of the diamonds which became subject to transportation and accumulation in the wash from the moraines of the later drift.

This view also supposes that the glacial abrasion directly freed some of the diamonds.

Of course the two hypotheses might be conjoined and this would be reasonable enough if the diamond-bearing matrix were such as to be topographically protruding and be subjected to disintegration and wear during the interglacial interval.

Of the two hypotheses, I incline somewhat to the first, as I think it more likely that the diamonds would be accumulated in some notable quantity in the long preglacial period of disintegration than in the relatively short interglacial interval.

To me also it seems that the former hypothesis is the more probable one, for the reason given, and further, because, as will be seen from what follows, the broad fan of distribution of the diamonds would seem to require a somewhat extensive area of supply, unless it be assumed that this was very near to the "center" from which the ice moved.

THE ANCESTRAL HOME OF THE DIAMOND

The problem of locating the area from which the diamonds of the drift have been derived is a fascinating one, and, while the data now available are insufficient for its complete solution, they are of a kind to indicate that, with the increase of our knowledge likely to come in the next decade, the desired end may be reached.

The first question which naturally arises is whether all the diamonds that have been found in the lake region have been derived from a common source. While there is no certain evidence that they have, nevertheless it would seem to be probable. Diamond-bearing rocks are not so numerous that there is much likelihood of two unconnected areas being discovered in the region in question. Moreover, the occurrence of diamonds with somewhat similar crystal habits over so large a territory would seem to be significant. The Oregon, Eagle, and Kohlsville diamonds, since they were found in the Green Bay lobe of the ice mantle, a comparatively narrow area, must certainly be regarded as having a common source, and this must be, as the writer pointed out in 1894, either on the medial line of the lobe,

or still farther away to the northward. It is also fair to suppose that the Saukville, Burlington, and Dowagiac stones, though they differ from one another in habit as much as any three stones from the region, have also a common source, since they were located comparatively near to one another in the moraines of the Lake Michigan lobe. Of these latter, the Dowagiac diamond is a hexoctahedron, like the stones from Plum Creek and the closely related vicinal hexoctahedrons of Eagle and Kohlsville.

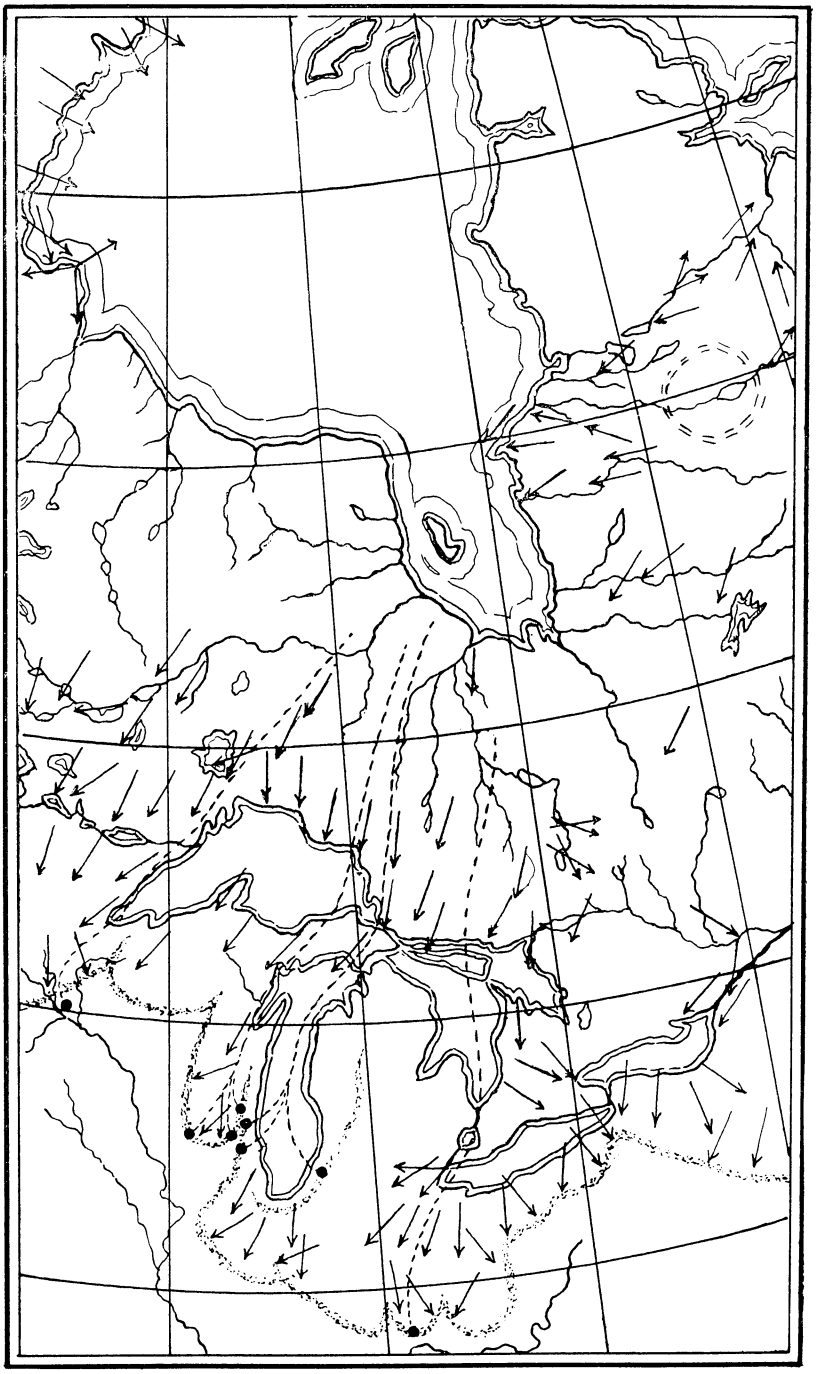
Provided a common source is assumed for all the diamonds of the region, this can only be located at the àpex of the fan of diamond distribution on the hither side of the névé from which the ice moved. The wider this fan of distribution is found to be, the nearer is its apex carried towards the ice summit. The radial sides of the fan must be largely determined from the directions of striæ within the Canadian wilderness, of which an adequate number have been recorded only from the immediate vicinity of the Great Lakes. Beyond these borders the *tracking* of the diamonds can be carried out only with a certain approximation to correctness.

One of the results of the magnificent investigations of Tyrrell[1] and Low,[2] the one working to the west and the other to the east of Hudson Bay, has been the location of two main "centers" of the ice mantle corresponding to the Keewatin and Labradorean or Laurentide glaciers. The eastern of these "centers" or névés, and the one which must have principally affected the glaciation of the area of the Great Lakes, has been located by Low to the east of James Bay, a little to the eastward of the present watershed on the Labrador peninsula. This is brought out on the accompanying map (Fig. 2) by the directions of the striæ of this vicinity.

The tracks of the lake diamonds which have been delineated upon the map, converge in the direction of this névé, and show

[1] J. B. TYRRELL: Report on the Doobaunt, Kazan, and Ferguson Rivers, and the northwest Coast of Hudson Bay, Geol. Surv. of Can., Vol. IX, 1896, Report F, pp. 1–218.

[2] A. P. LOW: *loc. cit.*



GLACIAL MAP OF THE TERRITORY ABOUT HUDSON BAY AND THE GREAT LAKES.

that the apex of the fan of diamond distribution probably lies somewhere in the strip of territory bordering James Bay on the east.

DATA NEEDED TO DEFINITELY LOCATE THE SOURCE OF SUPPLY OF DIAMONDS

Before the home of the diamonds can be located with definiteness, it will be necessary to carry out several lines of investigation. Of first importance is it that the direction of ice movement be studied in as much detail as possible in the territory surrounding Hudson Bay on the southwest, south, and east. It will be important also to search the moraines south of the lakes, and particularly the marginal ones, for diamonds, since the evidence points to them as the principal repository of the emigrated stones. It is especially important to examine the moraines of Ohio, western New York and western Pennsylvania, in order to determine whether the fan of distribution extends farther in that direction. If this is true, the apex of the fan would seem to be located very near to the center of the Labradorean névé.

It has seemed to the writer that much might be gained by arousing an interest in the problem in the people who reside on or near the moraines, and suggesting to them that children particularly be urged to use their keen eyes in search for the diamonds that have been sown in the drift. To this end a brief statement has been prepared which sets forth what has already been learned regarding the lake diamonds, and explaining how rough diamonds may be distinguished from the ever present quartz pebbles. For identification of stones the persons finding them are referred to mineralogists, who are competent to pass upon gem stones, and who are willing to do so without compensation because of their interest in the problem. It is hoped that the editors of local newspapers in the morainal belt, to whom the statement will be mailed, will be willing to coöperate by printing it, and thus aid materially in disseminating the needful information.

WM. H. HOBBS.